

AMENDMENTS TO THE ABSTRACT

Please substitute the following paragraph(s) for the abstract now appearing in the currently filed specification:

Provided is a process for producing a fine carbon fiber by a method of thermal decomposition of at least one organic compound containing an IUPAC^{VI}B group 16 element in the periodic table ~~in a molecule using a ultra fine particles comprising of~~ at least one transition metal as a catalyst, wherein a gas obtained by separating a fine carbon fiber from a gas coming out from a reaction furnace is cooled to further collect ~~the fine carbon fiber still present in the gas.~~ After cooling, at least part or the total amount of the above gas is cooled again to remove condensed components contained in the reacted unwanted condensates and by-products gas, and then the above after which the gas is recycled to the reaction furnace. ~~water~~ Water and the like are then separated from the condensate to further recycle ~~the unreacted raw material organic compound~~ removed during condensation.